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10/652,144	08/29/2003	Kenneth W. Boyd	TUC920030079US1	1176

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EXAMINER

WEINTROP, ADAM S

ART UNIT	PAPER NUMBER
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2109

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/652,144

Applicant(s)

BOYD ET AL.

Examiner

Adam S. Weintrop

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. **Claims 1-24** are objected to because of the following informalities:

Regarding **claim 1**, the phrase "the minimum aggregate response time" of line 15 has not been defined previously in the claim and lacks proper antecedent basis. It should be replaced with -- a minimum aggregate response time --. Also the phrase "plurality of control nodes" on lines 3, 5, and 7 should be replaced with -- plurality of interconnected control nodes --. In addition, the phrase "the other control nodes" of lines 3 and 8 lack antecedent basis as it has not been defined previously in the claim. Also the method step conditional phrase "operative if the captain control node is selected" on line 13 should be reworded so the method step appears first, such as -- determining...designating...if the captain control node is selected... --.

Regarding **claim 2**, the method step conditional phrase "operative if two or more control nodes" on line 4 should be reworded so the method step appears first, such as -- repeating...if two or more control nodes... --.

Regarding **claim 3**, the phrase "plurality of control nodes" on line 2 should be replaced with -- plurality of interconnected control nodes --.

Regarding **claim 4**, the phrase "the smallest standard deviation" of lines 3-4 has not been defined previously in the claims and lacks proper antecedent basis. It should be replaced with -- a smallest standard deviation --. Also the method step conditional phrase "operative if two or more control nodes" on line 2 should be reworded so the method step appears first, such as -- determining...if two or more control nodes... --.

Regarding **claim 5**, the phrase "the minimum performance score" of line 6 has not been defined previously in the claims and lacks proper antecedent basis. It should be replaced with -- a minimum performance score --. Also the method step conditional phrase "operative if the captain control node is selected" on line 2 should be reworded so the method step appears first, such as -- providing...determining...designating...if the captain control node is selected... --.

Regarding **claim 9**, the phrase "plurality of control nodes" on line 2 should be replaced with -- plurality of interconnected control nodes --.

Regarding **claim 10**, the phrase "an aggregate response time" of line 10 has already been defined and should be replaced with -- said aggregate response time --. The phrase "the minimum aggregate response time" of line 14 has not been defined previously in the claim and lacks proper antecedent basis. It should be replaced with -- a minimum aggregate response time --. In addition, the phrases "the other control nodes" of lines 6, 7, 8, and 10 lack antecedent basis as it has not been defined previously in the claim. Also the method step conditional phrases "operative if the captain control node is selected" on lines 13 and 15 should be reworded so the method step appears first, such as -- determining...designating...if the captain control node is selected... --.

Regarding **claims 11-14**, the phrases "a series of computer readable program steps" of line 2 have already been defined and should be replaced with -- said series of computer readable program steps --. Also the method step conditional phrase

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“operative if two or more” on line 5 in claim 11 should be reworded so the method step appears first, such as – providing...repeating...if two or more... --.

Regarding **claim 12**, the phrase “a standard deviation” of line 5 has already been defined and should be replaced with – said standard deviation --.

Regarding **claim 13**, the phrase “the smallest standard deviation” of lines 4-5 has not been defined in the claims and lacks antecedent basis. It should be replaced with – a smallest standard deviation --. Also the method step conditional phrase “operative if two or more” on line 3 should be reworded so the method step appears first, such as – determining...designating...if two or more...--.

Regarding **claim 14**, the phrase “the minimum performance score” of line 7 has not been defined and lacks antecedent basis. It should be replaced with – a minimum performance score --. Also the method step conditional phrases “operative if the captain control node is not selected” on line 3 should be reworded so the method step appears first, such as – retrieving...determining...designating...if the captain control node is not selected... --.

Regarding **claim 19**, the phrase “an aggregate response time” of line 14 has already been defined and should be replaced with – said aggregate response time --. The phrase “a captain control node” of line 17 has already been defined and should be replaced with – said captain control node --. The phrase “the minimum aggregate response time” of line 21 has not been defined before and lacks antecedent basis. It should be replaced with – a minimum aggregate response time --. In addition, the

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phrases "the other control nodes" of lines 6, 8, and 10 lack antecedent basis as it has not been defined previously in the claim.

Regarding **claim 21**, the phrase "a standard deviation" of line 6 has already been defined and should be replaced with – said standard deviation --.

Regarding **claim 22**, the phrase "the minimum aggregate response time" of line 3 has not been defined and lacks antecedent basis. It should be replaced with – a minimum aggregate response time --. The phrase "the lowest standard deviation" of line 4 has not been defined and should be replaced with – a lowest standard deviation --.

Regarding **claim 23**, the phrase "a control node" of line 9 has already been defined and should be replaced with – said control node --. The phrase "the minimum performance score" of line 9 has not been defined yet and should be replaced with –a minimum performance score --.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-24 are drawn towards an invention to

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select a captain control node in a network. The invention is contained within one node and its operations are construed as software. For a claim to be statutory, it needs to have a useful, concrete, and tangible result. There is no action claimed outside of the invention and therefore is rejected for being non-statutory. The dependant claims are rejected for the same, as they do not add tangible result to the claimed invention.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. **Claim 1, 10, and 19** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 11 of U.S. Patent No. 6,047,309. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are obvious variations of each other. Claims 1,

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10, and 19 of the current application are directed towards selecting a control node in a network by measuring response times of the other individual nodes, and then designating a control node that has the minimum aggregate response time of all the nodes. In the patent 6,047,309 the claims are directed towards recording response characteristics of the nodes in a network, recording the node data, and then selecting a node to serve information based on the observed response characteristics. The scope of these claims are similar, however the current application using aggregate response time, and the patent makes use of a recording step to record the response times. It would be obvious to one of ordinary skill in the art at the time of invention to conclude that the application is an obvious variant of the patent as they both designate a node in a network to be considered as the main node by using measured response times.

Claims 1, 10, and 19 are also rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,606,643. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are obvious variations of each other. Claims 1, 10, and 19 of the current application are directed towards selecting a control node in a network by measuring response times of the other individual nodes, and then designating a control node that has the minimum aggregate response time of all the nodes. In the patent 6,606,643 the claims are directed towards selecting a mirror server based on response characteristics. The scope of these claims are similar, however the current application uses aggregate response time, and the patent does not. It would be obvious to one of ordinary skill in the art at the time of invention to conclude that the

application is an obvious variant of the patent as they both designate a node in a network to be considered as the main node by using measured response times.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 5, 7-9, 10, 14, 16-18, 19, and 23** are rejected under 35 U.S.C. 102(b) as being anticipated by Kenner et al. (US 6,112,239).

Regarding **claim 1**, Kenner et al. discloses a method to select a captain control node from a plurality of interconnected control nodes (column 5, lines 7-12, where the “optimum mirror site” is a captain control node), comprising the steps of: providing by each of said plurality of control nodes a first signal to each of the other control nodes (column 10, lines 11-19, where the use of a ping sends out signals to other nodes on the network); receiving by each of said plurality of control nodes, a response signal from each of the other control nodes (column 10, lines 11-19, where the use of a ping receives signals from other nodes on a network); calculating by each of said plurality of control nodes individual response times for each of the other control nodes (column 10, lines 11-13, where ping measures response times); determining an aggregate response time for each of the plurality of interconnected control nodes (column 18, lines 30-34); determining whether to select a captain control node using said aggregate response

times (column 11, lines 61-67); operative if the captain control node is selected using said aggregate response times: determining the minimum aggregate response time (column 11, lines 61-65, where processing the data to determine a best server inherently would compute the minimum response time); and designating the control node having said minimum aggregate response time as the captain control node (column 12, lines 41-45).

Regarding **claim 10**, Kenner et al. discloses an article of manufacture comprising a control node and further comprising a computer useable medium having computer readable program code disposed therein to select a captain control node from a plurality of interconnected control nodes (column 5, lines 7-12, where the "optimum mirror site" is a captain control node), the computer readable program code comprising a series of computer readable program steps to effect: providing a first signal to each of the other control nodes (column 10, lines 11-19, where the use of a ping sends out signals to other nodes on the network); receiving a response signal from each of the other control nodes (column 10, lines 11-19, where the use of a ping receives signals from other nodes on a network); calculating individual response times for each of the other control nodes (column 10, lines 11-13, where ping measures response times); determining an aggregate response time for said article of manufacture; receiving an aggregate response time from each of the other control nodes (column 18, lines 30-34); determining whether to select a captain control node using said aggregate response times (column 11, lines 61-67); operative if the captain control node is selected using said aggregate response times, determining the minimum aggregate response time

(column 11, lines 61-65, where processing the data to determine a best server inherently would compute the minimum response time); operative if the captain control node is selected using said aggregate response times, designating the control node having said minimum aggregate response time the captain control node (column 12, lines 41-45).

Regarding **claim 19**, Kenner et al. discloses a computer program product usable with a programmable computer processor having computer readable program code embodied therein to select a captain control node from a plurality of interconnected control nodes (column 5, lines 7-12, where the "optimum mirror site" is a captain control node), wherein said computer program product is disposed in a first control node, comprising: computer readable program code which causes said programmable computer processor to provide a first signal to each of the other control nodes (column 10, lines 11-19, where the use of a ping sends out signals to other nodes on the network); computer readable program code which causes said programmable computer processor to receive a response signal from each of the other control nodes (column 10, lines 11-19, where the use of a ping receives signals from other nodes on a network); computer readable program code which causes said programmable computer processor to calculate individual response times for each of the other control nodes (column 10, lines 11-13, where ping measures response times); computer readable program code which causes said programmable computer processor to determine an aggregate response time for said first control node (column 18, lines 30-34); computer readable program code which causes said programmable computer processor to

receive an aggregate response time from each of the remaining control nodes (column 18, lines 30-34); computer readable program code which causes said programmable computer processor to determine whether to select a captain control node using said aggregate response times (column 11, lines 61-67); computer readable program code which, if the captain control node is selected using said aggregate response times, causes said programmable computer processor to determine the minimum aggregate response time (column 11, lines 61-65, where processing the data to determine a best server inherently would compute the minimum response time); and computer readable program code which, if the captain control node is selected using said aggregate response times, causes said programmable computer processor to designate the control node having the minimum aggregate response time as the captain control node (column 12, lines 41-45).

Regarding **claims 7-9**, Kenner et al. discloses providing a plurality of host computers, wherein each of said plurality of control nodes is disposed in a different one of said plurality of host computers, and wherein each of said plurality of host computers is capable of communicating with one or more host computers as required by claims 7 (column 8, lines 7-12, where host computers are "servers" and Figure 1, where the nodes can access each other via the Internet), and providing a plurality of data storage and retrieval systems, wherein each of said plurality of control nodes is disposed in a different one of said plurality of data storage and retrieval systems, and wherein each of said plurality of data storage and retrieval systems is capable of communicating with one or more host computers as required by claims 8 (column 8, lines 7-12, where

"mirror sites" and "data delivery" are data storage and retrieval systems and Figure 1, where the nodes can access each other via the Internet), and providing a plurality of primary backup appliances, wherein each of said plurality of control nodes is disposed in a different one of said plurality of primary backup appliances, and wherein each of said plurality of primary backup appliances is capable of communicating with one or more data storage and retrieval systems and with one or more secondary backup appliances as required by claims 9 (column 8, lines 7-12, where nodes can be mirror sites that can be accessed by users and Figure 1, where the nodes can access each other via the Internet).

Regarding **claims 16-18**, Kenner et al. discloses the article of manufacture of claim 10, wherein said article of manufacture comprises one of a plurality of host computers, wherein each of said plurality of host computers is capable of communicating with one or more data storage and retrieval systems as required by claim 16 (column 8, lines 7-12, where the nodes are "servers" and they can communicate with clients who can be data storage and retrieval units and Figure 1, where the nodes can access each other via the Internet), and the article of manufacture of claim 10, wherein said article of manufacture comprises one of a plurality of data storage and retrieval systems, wherein each of said plurality of data storage and retrieval systems is capable of communicating with one or more host computers as required by claim 17 (column 8, lines 7-12, where mirror sites and servers are data storage and retrieval units and they can interact with other computers and Figure 1, where the nodes can access each other via the Internet), and the article of manufacture

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of claim 10; wherein said article of manufacture comprises one of a plurality of primary backup appliances, wherein each of said plurality of primary backup appliances is capable of communicating with one or more data storage and retrieval systems and with one or more secondary backup appliances as required by claim 18 (column 8, lines 7-12, where "servers" can be backup servers, "content providers" can be data storage and retrieval, and "mirror sites" serve as secondary backup to an original server and Figure 1, where the nodes can access each other via the Internet).

Regarding claims 5, 14, and 23, Kenner et al. discloses steps that are operative if the captain control node is not selected using said aggregate response times (column 11, lines 61-65, where if a test is not performed, the system still goes on to other tests), providing a captain control node selection function; determining a performance score for each of the plurality of interconnected control nodes using said captain control node selection function (column 12, lines 45-47, with the weighting of test equivalent to providing and determining a performance score); designating a control node having the minimum performance score as the captain node (column 12, lines 41-47, where the site is determined based on the results).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 3 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenner et al. (US 6,112,239) in view of Conrad et al. (US 2002/0156878 A1).

Regarding **claims 3 and 12**, Kenner et al. discloses all of the limitations as described above except for using standard deviation with server response times. The general concept of using standard deviation with network analysis is well known in the art as illustrated by Conrad et al. Conrad provides a way to test network nodes including using standard deviation in column 2, section 19, lines 1-5. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kenner et al. with using standard deviation results as taught by Conrad et al. in order to fully test the nodes so the best node is selected as to increase system speed.

9. **Claims 2, 11, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenner et al. (US 6,112,239) in view of Rehkopf (US 6,505,249 B1).

Regarding **claims 2, 11, and 20**, Kenner et al. discloses all of the limitations as described above except for repeating the act of determining a response time and a control node if more than one node has the same response time. The general art of repeating tests in order to choose a control node is well known in the art as illustrated by Rehkopf. Rehkopf discloses a system where multiple tests are run on a network with multiple trials and multiple variables. This system can be automated and run multiple times to retest a network component (column 7, lines 3-7). The tests are used for choosing a best network component (column 2, lines 44-45 and lines 32-34). It would have been obvious to one of ordinary skill in the art to modify Kenner et al. with running

multiple test to get the best result as taught by Rehkopf in order to increase system speed.

10. **Claims 4, 13, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenner et al. (US 6,112,239) and Conrad et al. (US 2002/0156878 A1) as applied to claims 3, 12, and 21 above, and further in view of Rehkopf (US 6,505,249 B1).

Regarding **claims 4, 13, and 22**, Kenner et al. and Conrad et al. disclose all of the limitations as described above except for using multiple sets of data to determine the captain control node if the first set of data is not determinate. The general concept of running multiple tests to see what data is valid is well known in the art as illustrated by Rehkopf. Rehkopf discloses a system where multiple tests are run as to determine what network component is functioning the best. The tests are repeated and use different variables (column 6, lines 20-34). The results are returned to the system designer, which is the operator of the test, which can be software according to column 6, lines 61-62. The results are used for determining network conditions and optimizing performance just as choosing a captain control node does (column 6, lines 35-45). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kenner et al. and Conrad et al. with using other test if a first test has completed without determinate results as taught by Rehkopf in order to increase system speed by choosing the best node.

11. **Claims 6, 15, and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenner et al. (US 6,112,239).

Regarding using the performance score equation as recited in **claims 6, 15, and 24**, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kenner et al.'s equation (column 12, lines 45-47) to include the use of a performance score in his advantageous system, as using network factors is a common and everyday occurrence throughout the networking art and the specific use of a performance score formula would have been an obvious matter of design preference depending upon such factors as network elements and network size; the ordinarily skilled artisan would choose the best performance equation which would most optimize the cost and performance of the network for a particular application at hand, based upon the above noted common design criteria.

Conclusion

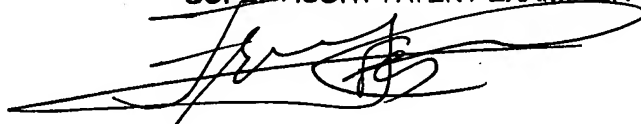
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam S. Weintrop whose telephone number is 571-270-1604. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AW 2/1/07

FRANTZ JULES
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Frantz Jules', is written over a horizontal line. The signature is stylized with a large, sweeping 'F' and a circular flourish at the end.